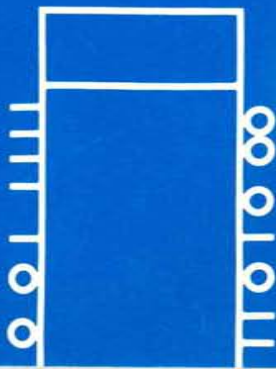
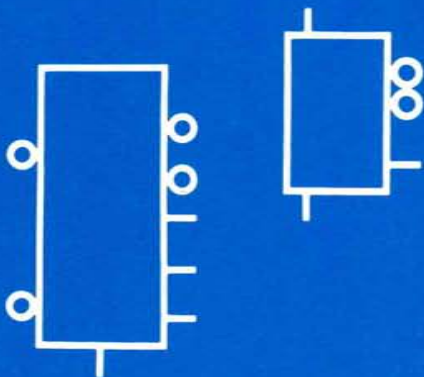
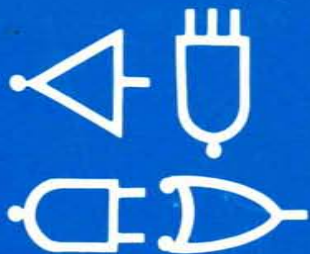


Pocket Library Guide

VALID

June 1987





The Pocket Library Guide lists the components within each of the Valid supplied libraries available at the time the list is published. Library development is an ongoing activity at Valid. As a result, the pocket guide is updated quarterly. Additional gate array and standard cell libraries are available through a number of semicustom vendors. Details can be obtained from any Valid sales office.

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*Denotes new components since last Pocket Library publication.



74LSTTL

This library can be obtained with either ANSI/IEEE format bodies or Valid format bodies.

LS00	LS122	LS244	LS422
LS01	LS123	LS245	LS423
LS02	LS125	LS247	LS445
LS03	LS126	LS248	LS446
LS04	LS132	LS249	LS447
LS05	LS133	LS251	LS448
LS08	LS136	LS253	LS449
LS09	LS137	LS257	LS465
LS10	LS138	LS258	LS466
LS11	LS139	LS259	LS467
LS12	LS145	LS260	LS468
LS13	LS147	LS261	LS490
LS14	LS148	LS266	LS533
LS15	LS151	LS273	LS534
LS18	LS152	LS279	LS540
LS19	LS153	LS280	LS541
LS20	LS154	LS283	LS569
LS21	LS155	LS290	LS590
LS22	LS156	LS293	LS591
LS24	LS157	LS295	LS592
LS26	LS158	LS298	LS593
LS27	LS160	LS299	LS595
LS28	LS161	LS321	LS596
LS30	LS162	LS322	LS597
LS31	LS163	LS323	LS598
LS32	LS164	LS347	LS604
LS33	LS165	LS348	LS605
LS37	LS166	LS352	LS606
LS38	LS169	LS353	LS607
LS40	LS170	LS354	LS620
LS42	LS173	LS355	LS621
LS47	LS174	LS356	LS622
LS48	LS175	LS357	LS623
LS51	LS181	LS363	LS624
LS54	LS182	LS364	LS625
LS55	LS183	LS365	LS626
LS73	LS189	LS366	LS627
LS74	LS190	LS367	LS628
LS75	LS191	LS368	LS629
LS76	LS192	LS373	LS640
LS78	LS193	LS374	LS641
LS83	LS194A	LS375	LS642
LS85	LS195	LS377	LS645
LS86	LS196	LS378	LS652
LS90	LS197	LS379	LS668
LS91	LS219	LS381	LS669
LS92	LS221	LS382	LS670
LS93	LS222	LS385	LS671
LS95	LS224	LS386	LS672
LS96	LS227	LS390	LS674
LS107	LS228	LS393	LS684
LS109	LS240	LS395A	LS693
LS112	LS241	LS396	LS699
LS113	LS242	LS398	LS793
LS114	LS243	LS399	

74STTL

This library can be obtained with either ANSI/IEEE format bodies or Valid format bodies.

S00	S64	S158	S244
S02	S74	S162	S251
S03	S85	S163	S253
S04	S86	S168	S257
S05	S109	S169	S258
S08	S112	S174	S260
S09	S113	S175	S280
S10	S114	S181	S283
S11	S124	S182	S299
S15	S132	S189	S340
S20	S133	S194	S344
S22	S138	S195	S373
S30	S139	S197	S374
S32	S140	S201	S381
S37	S148	S225	S471
S38	S151	S226	S533
S40	S153	S240	S534
S51	S157	S241	

74TTL

This library can be obtained with either ANSI/IEEE format bodies or Valid format bodies.

TTL01	TTL28	TTL80	TTL142
TTL02	TTL30	TTL81	TTL143
TTL03	TTL32	TTL81A	TTL144
TTL04	TTL37	TTL82	TTL145
TTL05	TTL38	TTL85	TTL147
TTL06	TTL40	TTL86	TTL148
TTL07	TTL45	TTL94	TTL150
TTL09	TTL47	TTL96	TTL153
TTL10	TTL48	TTL97	TTL154
TTL12	TTL50	TTL107	TTL155
TTL13	TTL51	TTL109	TTL156
TTL14	TTL53	TTL110	TTL157
TTL16	TTL54	TTL111	TTL159
TTL17	TTL60	TTL116	TTL176
TTL20	TTL70	TTL122	TTL177
TTL22	TTL72	TTL123	TTL179
TTL23	TTL73	TTL125	TTL185
TTL25	TTL74	TTL126	TTL198
TTL26	TTL75	TTL128	TTL273
TTL27	TTL76	TTL132	TTL376

74ALS

This library can be obtained with either ANSI/IEEE format bodies or Valid format bodies.

ALS00	ALS08	ALS15	ALS30
ALS01	ALS09	ALS20	ALS32
ALS02	ALS10	ALS21	ALS33
ALS03	ALS11	ALS22	ALS37
ALS04	ALS12	ALS27	ALS38
ALS05	ALS14	ALS28	(cont'd)



74ALS (cont'd)

This library can be obtained with either ANSI/IEEE format bodies or Valid format bodies.

ALS40	ALS168	ALS365	ALS640
ALS74	ALS169	ALS366	ALS645
ALS86	ALS174	ALS367	ALS648
ALS109	ALS175	ALS368	ALS651
ALS112	ALS190	ALS373	ALS652
ALS113	ALS191	ALS374	ALS677
ALS114	ALS192	ALS520	ALS688
ALS133	ALS193	ALS521	ALS804
ALS137	ALS240	ALS533	ALS805
ALS138	ALS241	ALS534	ALS808
ALS139	ALS242	ALS538	ALS857
ALS151	ALS243	ALS540	ALS873
ALS153	ALS244	ALS541	ALS874
ALS157	ALS245	ALS563	ALS878
ALS158	ALS251	ALS564	ALS990
ALS160	ALS253	ALS569	ALS1000
ALS161	ALS257	ALS573	ALS1002
ALS162	ALS258	ALS574	ALS1004
ALS163	ALS273	ALS575	ALS1005
ALS164	ALS299	ALS576	ALS1008
ALS165	ALS323	ALS580	ALS1034
ALS166	ALS353	ALS623	

74AS

This library can be obtained with either ANSI/IEEE format bodies or Valid format bodies.

AS00	AS153	AS280	AS652
AS02	AS157	AS286	AS804A
AS04	AS158	AS298	AS805A
AS08	AS161	AS299	AS808A
AS10	AS163	AS323	AS821
AS11	AS169	AS353	AS823
AS20	AS174	AS373	AS832A
AS21	AS175	AS374	AS843
AS27	AS181	AS533	AS857
AS30	AS195	AS534	AS866
AS32	AS240	AS573	AS867
AS74	AS241	AS574	AS869
AS109	AS242	AS575	AS874
AS112	AS243	AS576	AS877
AS113	AS244	AS580	AS878
AS114	AS245	AS623	AS882
AS137	AS251	AS638	AS1000
AS138	AS253	AS640	AS1004
AS139	AS257	AS645	AS1008
AS151	AS258	AS648	AS1034

74FAST

This library can be obtained with either ANSI/IEEE format bodies or Valid format bodies.

F00	F04	F10	*F13
F02	F08	F11	(cont'd)

74FAST (cont'd)

This library can be obtained with either ANSI/IEEE format bodies or Valid format bodies.

*F14	*F166	F323	*F642
F20	F168	F353	F646
*F27	F169	*F365	*F647
*F30	F174	*F366	F648
*F31	F175	F367	*F649
F32	F181	*F368	*F651
F38	F182	F373	*F652
*F40	F189	F374	*F653
*F51	F190	F377	*F654
F64	F191	F378	*F655A
F74	F192	F379	*F656A
*F83	F193	F381	F657
F85	F194	*F395	*F779
F86	*F195	F399	*F827
F109	F219	*F455	*F828
F112	F240	*F456	*F861
F113	F241	F521	*F862
F114	F242	F524	*F863
*F125	F243	F533	*F864
*F126	F244	F538	*F881
*F132	F245	*F543	*F882
F138	F251	*F544	*F1240
F139	F253	F547	*F1241
F148	F257	F552	*F1242
F151	F258	F574	*F1243
F153	*F259	F579	*F1244
*F154	*F260	*F604	*F1245
F157	F269	*F605	*F3037
F158	F273	*F620	*F3038
F160	F280	*F621	*F30240
F161	*F280B	F622	*F30244
F162	F283	*F623	
F163	F299	*F640	
F164	F322	*F641	

74HCMOS

This library can be obtained with either ANSI/IEEE format bodies or Valid format bodies.

HC00	HC42	HC125	HC163
HCT00	HC51	HC126	HC164
HC02	HC58	HC132	HC165
HCT02	HC73	HC133	HC166
HC03	HC74	HC137	HC173
HC04	HC75	HC138	HC174
HCT04	HC76	HCT138	HC175
HCU04	HC85	HC139	HC180
HC08	HC86	HC147	HC182
HC10	HC90	HC151	HC190
HC11	HC92	HC153	HC191
HC14	HC93	HC154	HC192
HC20	HC107	HC157	HC193
HC27	HC109	HC158	HC194
HC30	HC112	HC160	HC195
HC32	HC113	HC161	HC221
HCT32	HC123	HC162	(cont'd)



74HCMOS (cont'd)

HC237	HC292	HC541	HC4020
HC240	HC294	HC563	HC4024
HCT240	HC298	HC564	HC4040
HC241	HC299	HC573	HC4049
HCT241	HC354	HC574	HC4050
HC242	HC356	HC590	HC4051
HC243	HC365	HC595	HC4052
HC244	HC366	HC597	HC4053
HCT244	HC367	HC640	HC4066
HC245	HC368	HCT640	HC4075
HCT245	HC373	HC643	HC4078
HC251	HCT373	HCT643	HC4316
HC253	HC374	HC646	HC4351
HC257	HCT374	HC648	HC4352
HC259	HC390	HC688	HC4353
HC266	HC393	HCT688	HC4514
HC273	HC423	HCT670	HC4538
HC280	HC533	HC4002	
HCT280	HC534	HC4016	
HC283	HC540	HC4017	

54LS

This library can be obtained with either ANSI/IEEE format bodies or Valid format bodies.

54LS00	54LS74	54LS152	54LS240
54LS02	54LS75	54LS153	54LS241
54LS03	54LS76	54LS154	54LS242
54LS04	54LS78	54LS155	54LS243
54LS05	54LS83	54LS157	54LS244
54LS08	54LS85	54LS158	54LS245
54LS09	54LS86	54LS160	54LS251
54LS10	54LS90	54LS161	54LS253
54LS11	54LS91	54LS162	54LS257
54LS12	54LS92	54LS163	54LS258
54LS13	54LS93	54LS164	54LS259
54LS14	54LS95	54LS165	54LS260
54LS15	54LS96	54LS166	54LS266
54LS20	54LS107	54LS169	54LS273
54LS21	54LS109	54LS170	54LS279
54LS22	54LS112	54LS173	54LS280
54LS24	54LS113	54LS174	54LS283
54LS26	54LS114	54LS175	54LS290
54LS27	54LS122	54LS181	54LS293
54LS28	54LS123	54LS182	54LS295
54LS30	54LS125	54LS183	54LS298
54LS32	54LS126	54LS190	54LS299
54LS33	54LS132	54LS191	54LS322
54LS37	54LS133	54LS192	54LS323
54LS38	54LS136	54LS193	54LS348
54LS40	54LS137	54LS194A	54LS353
54LS42	54LS138	54LS195	54LS363
54LS48	54LS139	54LS196	54LS364
54LS51	54LS145	54LS197	54LS365
54LS54	54LS147	54LS219	54LS366
54LS55	54LS148	54LS221	54LS367
54LS73	54LS151	54LS222	(cont'd)

54LS (cont'd)

This library can be obtained with either ANSI/IEEE format bodies or Valid format bodies.

54LS368	54LS390	54LS593	54LS670
54LS373	54LS393	54LS640	54LS671
54LS374	54LS533	54LS641	54LS672
54LS377	54LS540	54LS642	54LS674
54LS378	54LS541	54LS645	54LS684
54LS379	54LS590	54LS668	54LS693
54LS381	54LS592	54LS669	54LS699

54STTL

This library can be obtained with either ANSI/IEEE format bodies or Valid format bodies.

54S00	54S38	54S153	54S241
54S02	54S40	54S157	54S244
54S03	54S51	54S158	54S251
54S04	54S64	54S162	54S253
54S05	54S74	54S163	54S257
54S08	54S85	54S169	54S258
54S09	54S86	54S174	54S260
54S10	54S109	54S175	54S280
54S11	54S112	54S181	54S283
54S15	54S132	54S182	54S299
54S20	54S133	54S189	54S373
54S22	54S138	54S194	54S374
54S30	54S139	54S201	54S381
54S32	54S140	54S225	54S471
54S37	54S151	54S240	

54TTL

This library can be obtained with either ANSI/IEEE format bodies or Valid format bodies.

54TTL00	54TTL28	54TTL94	54TTL176
54TTL04	54TTL32	54TTL116	54TTL177
54TTL06	54TTL33	54TTL120	54TTL179
54TTL07	54TTL45	54TTL121	54TTL185
54TTL08	54TTL47	54TTL123	54TTL198
54TTL10	54TTL70	54TTL128	54TTL265
54TTL16	54TTL80	54TTL150	54TTL273
54TTL17	54TTL81A	54TTL154	54TTL376
54TTL25	54TTL82	54TTL159	

54ALS

This library can be obtained with either ANSI/IEEE format bodies or Valid format bodies.

54ALS00	54ALS10	54ALS28	54ALS86
54ALS01	54ALS11	54ALS30	54ALS109
54ALS02	54ALS12	54ALS32	54ALS112
54ALS03	54ALS15	54ALS33	54ALS113
54ALS04	54ALS20	54ALS37	54ALS114
54ALS05	54ALS21	54ALS38	54ALS133
54ALS08	54ALS22	54ALS40	54ALS137
54ALS09	54ALS27	54ALS74	(cont'd)



54ALS (cont'd)

This library can be obtained with either ANSI/IEEE format bodies or Valid format bodies.

54ALS138	54ALS193	54ALS373	54ALS648
54ALS139	54ALS240	54ALS374	54ALS652
54ALS151	54ALS241	54ALS520	54ALS677
54ALS153	54ALS242	54ALS521	54ALS688
54ALS157	54ALS243	54ALS533	54ALS804
54ALS158	54ALS244	54ALS534	54ALS805
54ALS160	54ALS245	54ALS538	54ALS808
54ALS161	54ALS251	54ALS540	54ALS857
54ALS162	54ALS253	54ALS541	54ALS873
54ALS163	54ALS257	54ALS563	54ALS874
54ALS164	54ALS258	54ALS564	54ALS878
54ALS165	54ALS273	54ALS569	54ALS1000
54ALS166	54ALS299	54ALS573	54ALS1002
54ALS168	54ALS323	54ALS574	54ALS1004
54ALS169	54ALS352	54ALS575	54ALS1005
54ALS174	54ALS353	54ALS576	54ALS1008
54ALS175	54ALS365	54ALS580	54ALS1034
54ALS190	54ALS366	54ALS623	
54ALS191	54ALS367	54ALS640	
54ALS192	54ALS368	54ALS645	

54ASTTL

This library can be obtained with either ANSI/IEEE format bodies or Valid format bodies.

54AS00	54AS114	54AS195	54AS580
54AS02	54AS137	54AS240	54AS623
54AS04	54AS138	54AS241	54AS645
54AS08	54AS139	54AS243	54AS648
54AS10	54AS151	54AS244	54AS821
54AS11	54AS153	54AS251	54AS823
54AS20	54AS157	54AS253	54AS843
54AS21	54AS158	54AS257	54AS867
54AS27	54AS161	54AS258	54AS869
54AS30	54AS163	54AS373	54AS873
54AS32	54AS169	54AS374	54AS877
54AS74	54AS174	54AS533	54AS881
54AS109	54AS175	54AS534	54AS882
54AS112	54AS181	54AS573	54AS1034
54AS113	54AS182	54AS574	

54FAST

This library can be obtained with either ANSI/IEEE format bodies or Valid format bodies.

54F00	54F86	54F161	*54F191
54F02	54F109	54F163	54F194
54F04	54F112	54F164	54F219
54F08	54F138	54F169	54F240
54F10	54F139	54F174	54F241
54F11	54F148	54F175	54F242
54F20	54F151	54F181	54F243
54F32	54F153	54F182	54F244
54F64	54F157	54F189	54F245
54F74	54F158	54F190	(cont'd)

54FAST (cont'd)

54F251	54F283	54F377	54F399
54F253	54F323	54F378	54F521
54F257	54F352	54F379	54F533
54F258	54F353	54F381	54F534
54F273	54F373	54F382	54F569
54F280	54F374	54F398	

54HCMOS

This library can be obtained with either ANSI/IEEE format bodies or Valid format bodies.

54HC00	54HC154	54HC280	54HC4017
54HC02	54HC157	54HC283	54HC4020
54HC03	54HC158	54HC292	54HC4024
54HC04	54HC160	54HC294	54HC4040
54HC08	54HC161	54HC298	54HC4049
54HC10	54HC162	54HC299	54HC4050
54HC11	54HC163	54HC354	54HC4051
54HC14	54HC164	54HC356	54HC4052
54HC20	54HC165	54HC365	54HC4053
54HC27	54HC166	54HC366	54HC4066
54HC30	54HC173	54HC367	54HC4075
54HC32	54HC174	54HC368	54HC4078
54HC42	54HC175	54HC373	54HC4316
54HC51	54HC180	54HC374	54HC4351
54HC58	54HC182	54HC390	54HC4352
54HC73	54HC190	54HC393	54HC4353
54HC74	54HC191	54HC423	54HC4514
54HC75	54HC192	54HC533	54HC4538
54HC76	54HC193	54HC534	54HCT00
54HC85	54HC194	54HC540	54HCT02
54HC86	54HC195	54HC541	54HCT04
54HC107	54HC221	54HC563	54HCT32
54HC109	54HC237	54HC564	54HCT138
54HC112	54HC240	54HC573	54HCT240
54HC113	54HC241	54HC574	54HCT241
54HC123	54HC242	54HC590	54HCT244
54HC125	54HC243	54HC595	54HCT245
54HC126	54HC244	54HC597	54HCT280
54HC132	54HC245	54HC640	54HCT373
54HC133	54HC251	54HC643	54HCT374
54HC137	54HC253	54HC646	54HCT640
54HC138	54HC257	54HC648	54HCT643
54HC139	54HC259	54HC688	54HCT688
54HC147	54HC266	54HC4002	54HCT670
54HC151	54HC273	54HC4016	54HCU04
54HC153			

REALMODEL/REALCHIP

INTEL

80186	16 BIT MICROPROCESSOR
80188	16 BIT MICROPROCESSOR (8 BIT BUS)
80286	16 BIT MICROPROCESSOR

VALID**REALMODEL/REALCHIP** (cont'd)

80287 NUMERIC PROCESSOR EXTENSION FOR 80286
 8031 8 BIT MICROCOMPUTER
 8032 8 BIT MICROCONTROLLER
 8035AHL 8 BIT MICROCONTROLLER
 80386 32 BIT MICROPROCESSOR
 8052AH 8 BIT MICROCONTROLLER
 8085A 8 BIT MICROPROCESSOR
 8086MN 16 BIT MICROPROCESSOR
 8086MX 16 BIT MICROPROCESSOR
 8087 NUMERIC DATA COPROCESSOR
 8088MN 16 BIT MICROPROCESSOR (8 BIT BUS)
 8088MX 16 BIT MICROPROCESSOR (8 BIT BUS)
 8089 I/O PROCESSOR
 8155H 2048-BIT STATIC HMOS W/ I/O PORTS AND TIMER
 8203 64K DRAM CONTROLLER
 8206 ERROR DETECTION AND CORRECTION UNIT
 8207 DUAL PORT RAM CONTROLLER
 8208 DYNAMIC RAM CONTROLLER
 82258 ADVANCED DIRECT MEMORY ACCESS COPROCESSOR
 82284 CLOCK GENERATOR
 82288 BUS CONTROLLER
 82289 BUS ARBITER
 8237A PROGRAMMABLE DMA CONTROLLER
 8251A PROGRAMMABLE COMMUNICATIONS INTERFACE
 82530 SERIAL COMMUNICATIONS CONTROLLER
 8253x5 PROGRAMMABLE INTERVAL TIMER
 8254 PROGRAMMABLE INTERVAL TIMER
 8255 PROGRAM PERIPHERAL INTERFACE
 8256AH MULTIFUNCTION UART
 8257 PROGRAM DMA CONTROLLER
 82586 LAN ETHERNET COPROCESSOR
 8259A PROGRAM INTERRUPT CONTROLLER
 82720 GRAPHIC DISPLAY CONTROLLER
 8274 MULTI-PROTOCOL SERIAL CONTROLLER
 8284A CLOCK GENERATOR
 8288 SYSTEM CONTROLLER
 8289 BUS CONTROLLER
 8744 8 BIT MICROCONTROLLER
 8748H 8 BIT MICROCOMPUTER WITH EPROM
 8751 8 BIT MICROCOMPUTER

AMD
 9513 SYSTEM CONTROLLER
 2901 4 BIT BIPOLAR MICROPROCESSOR
 2903 ADVANCED 4 BIT BIPOLAR MICROPROCESSOR
 2909 MICROPROGRAMMABLE SEQUENCER
 2910 MICROPROGRAMMABLE CONTROLLER
 2911 MICROPROGRAMMABLE SEQUENCER
 29116 16 BIT MICROPROCESSOR
 29203 4 BIT BIPOLAR MICROPROCESSOR
 2940 DMA ADDRESS GENERATOR

REALMODEL/REALCHIP (cont'd)

AM2904 STATUS & SHIFT CONTROLLER
 AM2960 16 BIT ERROR DETECT/CORRECTION UNIT
 AM9517A DMA CONTROLLER
 AM9519A PROGRAMMABLE INTERRUPT CONTROLLER

AT&T
 32100 32 BIT MICROPROCESSOR

DIGITAL EQUIPMENT CORPORATION
 BIIC VAXBI BUS INTERFACE

FAIRCHILD
 F9450 16 BIT MICROPROCESSOR (MIL-STD-1750A)
 *CLIPPER 32 BIT MICROPROCESSOR -C100

HARRIS
 82C52 SERIAL CONTROLLER INTERFACE

MOTOROLA
 68000L8 16 BIT MICROPROCESSOR
 68008L8 16 BIT MICROPROCESSOR
 68010L8 16 BIT MICROPROCESSOR
 68020R12 32 BIT MICROPROCESSOR
 *6802 8 BIT MICROPROCESSOR
 6808 8 BIT MICROPROCESSOR
 6809 8 BIT MICROPROCESSOR
 6840P PROGRAMMABLE TIMER
 68450L8 4 CHANNEL DMA CONTROLLER
 68451L8 MMU
 68681 DUAL ASYNCHRONOUS RECEIVER/TRANSMITTER
 68701 8 BIT MICROCOMPUTER WITH EPROM
 68881R12 FLOATING POINT COPROCESSOR

NATIONAL SEMICONDUCTOR
 16032X6 16 BIT MICROPROCESSOR
 32032X8 32 BIT MICROPROCESSOR

NEC
 7220 GRAPHIC DISPLAY CONTROLLER

SIGNETICS
 2661B GRAPHICS DISPLAY CONTROLLER
 2681A DUAL ASYNCHRONOUS RECEIVER/TRANSMITTER (DUART)

TEXAS INSTRUMENTS
 32020 DIGITAL SIGNAL PROCESSOR
 AS888 8 BIT MICROPROCESSOR SLICE
 AS890 MICROSEQUENCER
 TMS32010 16 BIT MICROPROCESSOR
 74als616 16 BIT PARALLEL ERROR DETECTION AND CORRECTION
 THCT4502 DYNAMIC RAM CONTROLLER

WESTERN DIGITAL
 WD2123 UART



REMODEL/REALCHIP (cont'd)

WIETEK

WTL1164	64 BIT IEEE FLOATING POINT MULTIPLIER
WTL1165	64 BIT IEEE FLOATING POINT ALU

ZILOG

Z8400B	Z80 CPU
Z8410	Z80 DMA CONTROLLER
Z8420B	PARALLEL I/O CONTROLLER
Z8430B	CONTROL/TIMER CIRCUIT
Z8440B	SERIAL I/O CONTROLLER

MEMORY LIBRARY

This library can be obtained with either ANSI/IEEE format bodies or Valid format bodies.

2114AL-1	27S21A	51C259L-15	HM6116-2
2147H-1	27S25	74F410	HM6167
2148H-3	27S25A	74S387	HM6264P-15
2164A-15	27S27	51C64L-12	HM6514-5
27128	27S28	AM9122-25	IDT7130S-90
2716-1	27S28A	AM9128-70	IMS1420-45
27256	27S29	AM9510-20	M5M4C1000P-10
2732A-2	27S291	AM9864-2	M5M44C256P-10
2764-2	27S291A	AM93L422	MCM6164-55
27LS18	27S29A	CY7C122-15	MCM6664-15
27LS19	27S33	CY7C150-15	NMC2142A
27S13	27S33A	CY7C166-25	TC511002-10
27S13A	27S41	CY7C167-25	TC5517B
27S181	27S41A	CY7C169-25	TC5564P-15
27S181A	27S43	CY7C185-35	TMS2149-3
27S185	27S43A	CY7C263-35	TMS2167-4
27S185A	28L22	CY8C166-25	TMS4164-12
27S19	28L42	CY8C185-35	TMS4256E9-15
27S19A	28R85	F1600-55	UPD446-5
27S21	51C256L-15	HM4864-2	X2210

DISCRETE LIBRARY

4 BIT CONNECTOR	LED
ANALOG GND	LOOP ANTENNA
ANTENNA	MULTITAP TRANSFORMER
ANTTENUATOR	N JFET
ATTENUATOR	NPN
BATTERY	P JFET
CAPACITOR	PNP
CHASSIS GND	RESISTOR
CONNECTOR	SWITCH
DIODE	TAPPED INDUCTOR
EARTH GND	TERMINAL BOARD
FUSE	TEST POINT
GND	TRANSFORMER
GROUND	TUNNEL DIODE
INDUCTOR	VDC
INTERLOCK	ZENER DIODE
LAMP	

ECL 10K

10016	10119	10158	10179
10100	10121	10159	10180
10101	10123	10160	10181
10102	10124	10161	10186
10103	10125	10162	10188
10104	10130	10163	10189
10105	10131	10164	10192
10106	10132	10165	10195
10107	10133	10166	10197
10109	10134	10168	10210
10110	10135	10170	10211
10111	10136	10171	10212
10113	10137	10172	10216
10115	10141	10173	10231
10116	10145	10174	10415
10117	10153	10175	10804
10118	10154	10176	10805

ECL 100K

100101	100124	100151	100171
100102	100125	100155	100179
100107	100126	100156	100180
100112	100130	100158	100181
100113	100131	100160	100182
100114	100136	100163	100183
100117	100141	100164	100255
100118	100142	100165	100422
100122	100145	100166	100474
100123	100150	100170	

CMOS

4000UB	4028B	4071B	4508B
4001B	4029B	4072B	4510B
4002B	4030B	4073B	4511B
4006B	4032B	4075B	4512B
4008B	4034B	4076B	4514B
4011B	4035B	4077B	4515B
4012B	4038B	4078B	4516B
4013B	4040B	4081B	4517B
4014B	4042B	4082B	4519B
4015B	4043B	4093B	4520B
4016B	4047B	4094B	4526B
4017AB	4049UB	4098B	4528B
4017B	4050B	4099B	4529B
4018B	4051B	4160B	4530B
4019B	4052B	4161B	4532B
4020B	4053B	4162B	4538B
4021B	4060B	4163B	4539B
4022B	4066B	4174B	4549B
4023B	4067B	4175B	4551B
4024B	4068B	4502B	4552B
4025B	4069UB	4503B	4555B
4027B	4070B	4504B	(cont'd)

VALID

CMOS (cont'd)

4556B	4584B	40103B	40163B
4557B	4585B	40105B	40174B
4559B	4599B	40109B	40175B
4562B	4724B	40161B	40192B
4572UB	40085B	40162B	40193B

MM74C

C42	C157	C374	C914
C74	C192	C902	
C154	C373	C910	

MOSIS

1100	1520	1810	9160
1120	1530	1830	9230
1130	1540	1850	9240
1140	1550	1870	9460
1220	1560	1910	9470
1230	1570	1930	9530
1320	1580	1970	9540
1340	1610	2310	9650
1350	1620	2350	9660
1370	1660	2900	9670
1410	1670	2910	9680
1420	1680	2920	9710
1430	1740	9110	9720
1440	1760	9120	
1480	1770	9150	

HCA6300

B01D	C009	C039	HCA 5 WIRED
B01N	C010	C040	HCA 6 WIRED
B01U	C012	C041	HCA 7 WIRED
B02D	C013	C042	HCA 8 WIRED
B02N	C017	C053	I01D
B02U	C019	C054	I01N
B03D	C020	C055	I01U
B03N	C022	C056	I02D
B03U	C025	C057	I02N
B04D	C026	C058	I03N
B04N	C027	C059	I03U
B04U	C028	C060	I04D
B05D	C029	HCA 2 TRIBUS	I04N
B05N	C030	HCA 3 TRIBUS	I04U
B05U	C031	HCA 4 TRIBUS	I05D
C001	C032	HCA 5 TRIBUS	I05N
C002	C033	HCA 6 TRIBUS	I05U
C003	C034	HCA 7 TRIBUS	I06D
C004	C035	HCA 8 TRIBUS	I06N
C005	C036	HCA 2 WIRED	I06U
C007	C037	HCA 3 WIRED	I07D
C008	C038	HCA 4 WIRED	(cont'd)

HCA6300 (cont'd)

I07N	I08D	I08U	Y02N
I07U	I08N	Y01N	Y03N

MCA1200

BOUT	H34	I15	O06
G01	H35	I16	O07
G02	H40	I20	O08
G03	H41	I0 PAD	O09
G04	H42	M13	O10
G05	H43	M14	O11
G06	H52	M19	O12
G07	H54	M20	O13
G08	H57	M21	O14
G09	H58	M22	O15
G10	H59	M23	O16
G11	H60	M24	O17
G12	H61	M25	O18
G13	H62	M26	O19
G14	H63	M28	O20
G15	H64	M29	O21
G16	H65	M30	O24
G17	H66	M32	O25
G18	H67	M36	T01
G19	H69	M37	T02
G20	H71	M38	T03
G21	H72	M39	T04
G24	H73	M44	T05
G25	H75	M45	T06
H01	H77	M46	T07
H02	H78	M47	T08
H03	H81	M48	T09
H04	H83	M49	T10
H05	H84	M50	T11
H06	I01	M51	T12
H07	I02	M53	T13
H08	I03	M55	T14
H09	I04	M56	T20
H10	I05	M68	WIRED 2 OR
H11	I06	M74	WIRED 3 OR
H12	I07	M76	WIRED 4 OR
H15	I08	M79	WIRED 5 OR
H16	I09	M80	WIRED 6 OR
H17	I10	O01	WIRED 7 OR
H18	I11	O02	WIRED 8 OR
H27	I12	O03	
H31	I13	O04	
H33	I14	O05	

MCA2500

CLKB	M202	M212	M217
CLK5	M203	M213	M218
CLK6	M204	M214	M219
M200	M207	M215	M221
M201	M211	M216	(cont'd)

VALID

MCA2500 (cont'd)

M222	M282	M318	X202
M223	M283	M319	X203
M224	M284	M320	X204
M225	M285	M321	X205
M226	M286	M322	X211
M227	M290	M323	X221
M228	M291	M324	X251
M238	M292	M331	X252
M239	M293	M332	X253
M251	M294	M333	X261
M252	M295	M370	X267
M253	M296	M371	X291
M254	M297	M372	X292
M255	M298	M373	X293
M256	M299	M374	VB25
M258	M310	M375	VB50
M259	M311	M376	V025
M261	M312	M391	V050
M262	M313	M393	2 WOR
M263	M314	M394	3 WOR
M281	M315	X201	4 WOR

MCA2800

M200	M252	M315	F205
M201	M253	M316	F206
M202	M254	M318	F207
M203	M255	M319	F208
M204	M256	M320	F209
M205	M258	M323	F210
M206	M261	M331	F211
M211	M262	M332	F212
M212	M263	M333	F213
M213	M281	M370	F214
M214	M282	M372	F215
M215	M283	M374	F216
M216	M284	M375	F217
M217	M290	M380	F218
M218	M291	M381	F219
M219	M292	M391	F220
M221	M293	M392	F221
M222	M294	M393	F222
M223	M295	M394	3 WOR
M224	M296	M395	4 WOR
M225	M297	M396	5 WOR
M226	M298	M397	6 WOR
M227	M299	M398	7 WOR
M228	M310	F201	8 WOR
M238	M311	F202	
M239	M312	F203	
M251	M313	F204	

MCA2900

CLKP	M256	M333	T216
M200	M258	M370	T217
M201	M261	M372	T218
M202	M262	M374	T219
M203	M263	M375	T220
M204	M281	M376	T221
M205	M282	M380	T222
M206	M283	M381	VB25
M211	M284	M391	VB50
M212	M290	M392	VO25
M213	M291	M393	VO50
M214	M292	M394	X201
M215	M293	M395	X202
M216	M294	M396	X203
M217	M295	M397	X204
M218	M296	M398	X211
M219	M297	T201	X251
M221	M298	T202	X252
M222	M299	T203	X253
M223	M310	T204	X261
M224	M311	T205	X271
M225	M312	T206	X291
M226	M313	T207	X292
M227	M315	T208	X293
M228	M316	T209	2WOR
M238	M318	T210	3WOR
M239	M319	T211	4WOR
M251	M320	T212	5WOR
M252	M323	T213	6WOR
M253	M331	T214	7WOR
M254	M332	T215	8WOR
M255			

TEGAS5

1ADDER	2DECODERE	7NAND	6OR
1ALU	3DECODERE	8NAND	7OR
2AND	4DECODERE	2NAND2OUT	8OR
3AND	8ENCODER	3NAND2OUT	2ORNOR
4AND	1FDETECT	4NAND2OUT	3ORNOR
5AND	8FDETECT	5NAND2OUT	4ORNOR
6AND	1FLTDUMMY	6NAND2OUT	5ORNOR
7AND	8FLTDUMMY	7NAND2OUT	6ORNOR
8AND	4MULTIPLY	8NAND2OUT	7ORNOR
2ANDNAND	8MULTIPLY	2NOR	8ORNOR
3ANDNAND	2MUX	3NOR	8PARITY
4ANDNAND	4MUX	4NOR	4X4PLA
5ANDNAND	8MUX	5NOR	16X4RAM
6ANDNAND	2MUXE	6NOR	4X4REGFILE
7ANDNAND	4MUXE	7NOR	8X8REGFILE
8ANDNAND	8MUXE	8NOR	4REGISTER
4COMPARTR	2NAND	2NXOR	8REGISTER
4COUNTER	3NAND	2OR	16X4ROM
2DECODER	4NAND	3OR	4SERSHIFT
3DECODER	5NAND	4OR	8SERSHIFT
4DECODER	6NAND	5OR	

(cont'd)



TEGAS5 (cont'd)

1SHD01	6TRINAND	3TRIRECX	DELAYT
4SHD01	7TRINAND	4TRORECX	DENE
1SHD10	8TRINAND	5TRORECX	DEPE
4SHD10	2TRIOR	6TRORECX	DMNE
1SHDALL	3TRIOR	8TRORECX	GRND
4SHDALL	4TRIOR	2WAND	JK-JKENE
4SHIFT	5TRIOR	3WAND	JK-JKEPE
8SHIFT	6TRIOR	4WAND	JK-JKMNE
4SUBTRACT	7TRIOR	5WAND	JKENE
1TRANENE	8TRIOR	6WAND	JKEPE
2TRANENE	1TRIRECO	7WAND	JKMNE
3TRANENE	2TRIRECO	8WAND	ONESHOT
4TRAMEME	3TRIRECO	2WOR	PUSHPULL
1TRANEPE	4TRIRECO	3WOR	PWR
2TRANEPE	5TRIRECO	4WOR	REONESHT
3TRANEPE	6TRIRECO	5WOR	R-SRENE
4TRANEPE	7TRIRECO	6WOR	SR-SREPE
2TRIAND	8TRIRECO	7WOR	SR-SRMNE
3TRIAND	1TRIREC1	8WOR	SRENE
4TRIAND	2TRIREC1	2XOR	SREPE
5TRIAND	3TRIREC1	BCD	SRMNE
6TRIAND	4TRIREC1	BCDIN	SRNANDL
7TRIAND	5TRIREC1	BDSWITCH	SRNORL
8TRIAND	6TRIREC1	CLOCK	T-TMNE
2TRINAND	7TRIREC1	D-DENE	TMNE
3TRINAND	8TRIREC1	D-DEPE	TNOT
4TRINAND	1TRIRECX	D-DMNE	TRANSP
5TRINAND	2TRIRECX	DELAY	

LOGCAP

2,2 AO	3OR	6NOR	BIGATE
2,2 AO1	3TRIBUS	6OR	CTR
2,2 OA	3WIRED	6TRIBUS	DFF
2,2 OAI	4AND	6WIRED	INV
256X4 RAM	4NAND	7AND	JKF
256x8 ROM	4NOR	7NAND	JKFAC
2AND	4OR	7NOR	JKFDC
2NAND	4TRIBUS	7OR	NBIGATE
2NOR	4WIRED	7TRIBUS	OSH
2OR	5AND	7WIRED	SRF
2TRIBUS	5NAND	8AND	SRN
2WIRED	5NOR	8NAND	SSR
2XNOR	5OR	8NOR	TRI
2XOR	5TRIBUS	8OR	TRIN
3AND	5WIRED	8TRIBUS	
3NAND	6AND	8WIRED	
3NOR	6NAND	8X8 PLA	

HILO

1AND	1NOT	2NAND	3AND
1BUF	1OR	2NOR	3BUF
1NAND	2AND	2NOT	3NAND
1NOR	2BUF	2OR	(cont'd)

HILO (cont'd)

3NOR	5NAND	7BUF	BALR
3NOT	5NOR	7NAND	BUFIF0
3OR	5NOT	7NOR	BUFIF1
4AND	5OR	7NOT	CAPACITOR
4BUF	6AND	7OR	CLOCK0
4NAND	6BUF	8AND	CLOCK1
4NOR	6NAND	8BUF	NOTIF0
4NOT	6NOR	8NAND	NOTIF1
4OR	6NOT	8NOR	TRANIF0
5AND	6OR	8NOT	TRANIF1
5BUF	7AND	8OR	

TIME

2 AND	5 OR	XOR	SETUP HOLD
3 AND	6 OR	BUF	SETUP RISE
4 AND	7 OR	TS BUF	HOLD FALL
5 AND	8 OR	THRESHOLD	MIN PULSE
6 AND	2 CHG	2 MUX	WIDTH
7 AND	3 CHG	4 MUX	EDGE TO EDGE
8 AND	4 CHG	8 MUX	RES
2 OR	5 CHG	REG	IDENTITY
3 OR	6 CHG	REG RS	TRANSMISSION
4 OR	7 CHG	LATCH	GATE
	8 CHG	LATCH RS	UNITRANS GATE

SIM

2 AND	2 OR	XOR	REG
3 AND	3 OR	BUF	REG CKE
4 AND	4 OR	TS BUF	REG RS
5 AND	5 OR	JK	REG RS COMP
6 AND	6 OR	2 MUX	REG RS COMP2
7 AND	7 OR	4 MUX	LATCH
8 AND	8 OR	8 MUX	LATCH RS
LATCH RS COMP		COMPARATOR	
SCAN LATCH		LOOKAHEAD	
SCAN LATCH RS		MEMORY	
RES		PARITY	
PASS TRANSISTOR		IDENTITY	
COUNTER SHIFT REGISTER		UNI PASS TRANSISTOR	
1 OF 8 DECODER		SETUP HOLD	
8 BIT DECODER		SETUP RISE HOLD FALL	
PRIORITY ENCODER		EDGE TO EDGE	
8 BIT PRIO ENCODER		MIN PULSE WIDTH	
ALU		EXAMPLE OF EACH	
ADDER		SIMULATOR PRIMITIVE	
CARRY SAVE ADDER			

SPICE

CAPACITOR	ISOURCE (V)	PMOS	VSOURCE (I)
DIODE	NJFET	PNP	VSOURCE (V)
INDUCTOR	NMOS	RESISTOR	
ISOURCE	NPN	TRANSMISSION	
ISOURCE(I)	PJFET	VSOURCE	



PHANTOM

PHAN 2 AND	PHAN 6 AND	PHAN 3 OR	PHAN 6 OR
PHAN 3 AND	PHAN 7 AND	PHAN 4 OR	PHAN 7 OR
PHAN 4 AND	PHAN 8 AND	PHAN 5 OR	PHAN 8 OR
PHAN 5 AND	PHAN 2 OR		

STANDARD

A SIZE PAGE	2 MERGE	9 MERGE	SIM_DIRECTIVES
B SIZE PAGE	3 MERGE	10 MERGE	SLASH
DEFINE	4 MERGE	MSB TAP	SYNONYM
DRAWING	5 MERGE	ORIGIN	TIME_DIRECTIVES
FLAG	6 MERGE	PIN NAMES	VALID A SIZE PAGE
LSB TAP	7 MERGE	REPLICATE	VALID B SIZE PAGE
NOT	8 MERGE	SIGN EXTEND	

ADV PAL

22V10	18P8	20RA10	T19L8
32R16	EP300		

PAL20

10H8	14H4	16L8	16HD8
10L8	14L4	16P2	16LD8
10P8	14P4	16P8	16RP4
12H6	16C1	16R4	16RP6
12L6	16H2	16R6	16RP8
12P6	16L2	16R8	

PAL24

6L16A	16H6	20L2	20RS8
8L14A	16L6	20L8	20RS10
12H10	16P6	20L10	20S10
12L10	18H4	20P2	20X4
12P10	18L4	20R4	20X8
14H8	18P4	20R6	20X10
14L8	20C1	20R8	
14P8	20H2	20RS4	

IFL

82S100	82S105	82S155	82S161
82S101	82S151	82S157	82S167
82S103	82S153A	82S159	

***ANALOG**

PNP Bipolar Transistors

2N2894	2N3762	2N4403	MJ2955
2N2904	2N3790	2N4918	MM4049
2N2904A	2N3791	2N4920	MPSA55
2N2905A	2N3792	2N4957	MPSA56
2N2906	2N3810	2N5086	MPSH81
2N2906A	2N3811	2N5087	MPS8599
2N2907	2N3905	2N5160	MRF536
2N2907A	2N3906	2N5194	MRF543
2N3250	2N3964	2N5400	MRF545
2N3251	2N4036	2N5401	MRF547
2N3486	2N4125	2N5415	MRF549
2N3634	2N4126	2N5879	TIP30
2N3636	2N4208	2N6437	TIP30A
2N3637	2N4209	2N6609	TIP30C
2N3740	2N4260	2N6729	TIP30D
2N3741	2N4402	LT5839	

NPN Bipolar Transistors

2N918	2N3866	2N6604	MRF571
2N930	2N3866A	BFR91	MRF581A
2N1711	2N3904	BFR96	MRF586
2N2219	2N3960	BFR990	MRF837
2N2219A	2N4123	LT11739	MRF901
2N2222	2N4401	LT4404	MRF904
2N2369	2N5088	LT4704	MRF905
2N2369A	2N5089	MPSA06	MRF911
2N2484	2N5109	MPSH10	MRF914
2N2857	2N5179	MPSU05	MRF931
2N3019	2N5190	MPSU07	MRF961
2N3055	2N5191	MRF542	MRF962
2N3439	2N5192	MRF544	MRF965
2N3498	2N5320	MRF546	TIP29
2N3501	2N5943	MRF548	TIP29C
2N3725	2N6603	MRF559	

Diodes

647	1N750A	1N4004	1N4732
649	1N752	1N4005	1N4732A
4465	1N752A	1N4007	1N4733
4467	1N753A	1N4035A	1N4734
4468	1N754	1N4148	1N4735
4471	1N755A	1N4149	1N4735A
4958	1N757	1N4150	1N4736
4972	1N759A	1N4154	1N4736A
5082-281	1N914	1N4454	1N4737
5809	1N966B	1N4473	1N4738
8628	1N968B	1N4474	1N4738A
JTX4974	1N970B	1N4478	1N4740
mR817	1N3016A	1N4480	1N4740A
mR818	1N3022B	1N4481	1N4741A
mR856	1N3025B	1N4482	1N4742
P6KE6.8A	1N3600	1N4488	1N4742A
1N581	1N3899	1N4728	1N4743
1N746	1N4001	1N4729	1N4744
1N746A	1N4002	1N4730	1N4747
1N747A	1N4003	1N4731	(cont'd)



***ANALOG** (cont'd)

1N4763	1N4934	1N4957	1N5417
1N4816	1N4935	1N4969	1N5418
1N4817	1N4936	1N4973	1N5419
1N4820	1N4937	1N5052	1N5819
1N4821	1N4954	1N5053	
1N4822	1N4955	1N5054	
1N4933	1N4956	1N5237B	

JFETS

2N3438	2N4341	2N4859	2N5465
2N3823	2N4391	2N4860A	J174
2N4117A	2N4392	2N4861	J175
2N4119	2N4393	2N4861A	J176
2N4119A	2N4416	2N5114	J177
2N4223	2N4856	2N5459	J309
2N4338	2N4857	2N5460	
2N4339	2N4858	2N5462	

MOSFETS

IRFD1Z3	IRFD9210
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OP-AMPS

LF147	LF353	LM108	LM741
LF155	LF355	LM118	LM747
LF156	LF356	LM124	LM2902
LF157	LF357	LM148	TL074
LF347	LM11	LM318	TL082
LF351	LM101A	LM324	

SEMI CUSTOM DESIGN PACKAGE

Vendor	Family
AMCC	Q700 ECL Gate Array Q1500 ECL Gate Array Q3500 ECL Gate Array
AMD	1850 Gate Array 3500 Gate Array
*AT&T	1.25 CMOS Standard Cell 1.75 CMOS Standard Cell
ASEA HAFO	SOS Standard Cell
CDI	*2 μ CMOS Gate Array *3 μ CMOS Gate Array *2 μ Standard Cell *3 μ Standard Cell
*Control Data Corporation	CDC 6000 Standard Cell
Fairchild	*FGCX Gate Array FGC Gate Array FGE ECL Gate Array *FGC500 Gate Array *FGE500 Gate Array *FGE2000 Gate Array *FGE2500 Gate Array
Ferranti	ULA Standard Cell

SEMI CUSTOM DESIGN PACKAGE (cont'd)

Fujitsu	Bipolar H-Series Gate Array B-2000 Gate Array CMOS H-Series Gate Array VH-Series Gate Array
Harris	CMOS Standard Cell
Hitachi	2 μ CMOS Gate Array 2 μ BI-MOS Gate Array
Hughes	CMOS Gate Array CMOS Standard Cell
IMP	CMOS Standard Cell
ISI	MOSIS CMOS Standard Cell
LSI Logic	5000 Gate Array 7000 Gate Array *8000 Gate Array 9000 Gate Array
*Matra Harris	2 μ Gate Array 3 μ Gate Array Gate Arrays
MEDL	Gate Arrays
Mietec	3 μ CMOS Gate Array 3 μ CMOS Standard Cell
*Mitsubishi	1.3 μ Gate Array 2 μ Gate Array 3 μ Gate Array 2 μ Standard Cell
Motorola	HCA 6300 CMOS Gate Array MCA 1200 ECL Gate Array MCA 2500 ECL Gate Array MCA 2800 ECL Gate Array MCA 2900 ECL Gate Array *62A CMOS Gate Array *62M CMOS Gate Array *2 μ CMOS Standard Cell *3 μ CMOS Standard Cell
National Semiconductor	SCL 2 μ CMOS Gate Array SCX 2 μ CMOS Standard Cell
NEC	CMOS 3 (2 μ) Gate Array CMOS 4 (1.5 μ) Gate Array ECL 2 10KH Gate Array ECL 3 100 KH Gate Array ECL 3A 100 KH Gate Array TTL 2 Gate Array TTL 3 Gate Array
NCR	2 μ CMOS Standard Cell 3 μ CMOS Standard Cell
OKI	60K Gate Array 70K Gate Array 70HK Gate Array 70VK Gate Array

SEMI CUSTOM DESIGN PACKAGE (cont'd)

Philips	CMOS Gate Array PCF Series ECL Gate Array ACE Series
Plessey	CLA 3000 Gate Array CLA 5000 Gate Array *MVA 5000 2 μ CMOS Standard Cell
RCA	Pa 50,000 3 μ DLM Gate Array Pa 60,000 4 μ SLM Gate Array *Pa CMOS II 2 μ DLM Standard Cell Pa CMOS II/IID 3 μ Standard Cell Pa CMOS SOS 3 μ Standard Cell
*Ricoh Standard Microsystems Corporation	CMOS Gate Array 3 μ Customization Standard Cell
Texas Instruments	TISC 2 μ CMOS Standard Cell TISC 3 μ CMOS Standard Cell
*Thomson-Mostek	2 μ Gate Array 2 μ Standard Cell
Toshiba	1.5 μ Gate Array 2 μ Gate Array 3 μ Gate Array 2 μ Standard Cell
United Technologies Microelectronics Center	1.5 μ CMOS Gate Array 3 μ CMOS Gate Array
*VLSI Technologies	VGT10 2 μ Standard Cell

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